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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,865	12/17/2001	W. Eli Strich	PA113B1C1	3128
23596 7590 10/22/2008 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121				
EXAMINER				
TORRES, JUAN A				
ART UNIT		PAPER NUMBER		
2611				
NOTIFICATION DATE		DELIVERY MODE		
10/22/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/021,865

Applicant(s)

STRICH ET AL.

Examiner

JUAN A. TORRES

Art Unit

2611

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 11-22 and 29-41 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 and 25-27 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 42-64 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/09/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/09/2008 has been entered.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 06/09/2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Examiner NOTE:

Reference C3 didn't include a date (minimum a year of publication). The Examiner believes that the appropriate year of publication was 1991, in the MRPC91 conference (see reference [9] of Swales, ("A spectrum efficient cellular base-station antenna architecture" This paper appears in: Antennas and Propagation Society International Symposium, 1992. AP-S. 1992 Digest. Held in conjunction with: URSI Radio Science Meeting and Nuclear EMP Meeting., IEEE Publication Date: 18-25 Jul 1992 On page(s): 1069-1072 vol.2 Meeting Date: 07/18/1992 - 07/25/1992 Location: Chicago, IL, USA ISBN: 0-7803-0730-5)).

Drawings

The modifications to the drawings were received on 06/09/2008. These modifications are accepted by the Examiner.

In view of the amendment filed on 06/09/2008, the Examiner withdraws Drawing objections of the previous Office action.

Claim Objections

The modifications to the claims were received on 06/09/2008. These modifications are accepted by the Examiner.

In view of the amendment filed on 06/09/2008, the Examiner withdraws claim objections to claims 9 and 28 of the previous Office action.

Claim 24 is objected to because of the following informalities: the recitation in line 3 of claim 24 "said plurality of said summation networks" seems to be improper, because it is improperly constructed (see claim 23 line 8 "a plurality of summation networks"); it is suggested to be changed to "said plurality of summation networks"

Claim Rejections - 35 USC § 112

The modifications to the claims were received on 06/09/2008. These modifications are accepted by the Examiner.

In view of the amendment filed on 06/09/2008, the Examiner withdraws claim rejections under 35 USC § 112 second paragraph to claims 1-7, 9 and 10 of the previous Office action.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 and 42-64 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device.

Claims 1-10 and 42-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, claim 1 recites the limitation "said pair of PN-modulates signals" in lines 6 and 7-8. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 2-6, 9 and 10, they are rejected because they depend directly or indirectly from claim 1 and claim 1 is rejected.

Regarding claim 7, claim 7 recites the limitation "said pair of PN-modulates signals" in lines 5 and 6-7. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 42-48, they are rejected because they depend directly or indirectly from claim 7 and claim 7 is rejected.

Regarding claim 49, claim 49 recites the limitation "said pair of PN-modulates signals" in lines 6 and 7-8. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 50-56, they are rejected because they depend directly or indirectly from claim 49 and claim 49 is rejected.

Regarding claim 57, claim 57 recites the limitation "said pair of PN-modulates signals" in lines 6 and 7. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 58-64, they are rejected because they depend directly or indirectly from claim 57 and claim 57 is rejected.

Regarding claims 1-6, 10, 49-54 and 56, they are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: varying the size of a set of user sectors between successive system operating periods.

Regarding claims 7, 42-46 and 48, they are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: "means for varying the size of a set of user sectors between successive system operating periods for introducing a delay between said pair of PN-modulated signals projected to adjacent coverage areas within a given user sector" (see claim 47).

Regarding claim 8, claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap

between the elements. See MPEP § 2172.01. The omitted elements are: "a plurality of receivers operability connected to said plurality of summation networks" (see claim 23).

Regarding claims 57-62 and 64, they are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: "the at least one antenna varies the size of a set of user sectors between successive system operating periods; and wherein the delay element further introduces a delay between said pair of PN-modulated signals projected to adjacent coverage areas within a given user sector" (see claim 63).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-6, 9, 10 and 49-56 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. .

Regarding claims 1-6, 9, 10 and 49-56, claims 1-6, 9, 10 and 49-56 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101"). The instant claims neither transform underlying

subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Regarding claims 1-6, 10 and 49-54 and 56, claims 1-6, 10 and 49-54 and 56 are rejected because they claim an abstract idea or calculation to sum two PN modulated signals, that consists solely of the manipulation of abstract ideas that don't produce any practical application that produces a useful, concrete and tangible result, that is not statutory subject of matter. See In re Warmerdam, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir.1994). See also Schrader, 22 F.3d at 295, 30 USPQ2d at 1459. Claims 1-17 don't produce any practical application that produces a useful, concrete and tangible result State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02 (emphasis added).

Allowable Subject Matter

Claims 23-28 are allowed if the above objections are overcome.

The following is an examiner's statement of reasons for allowance: claims 23-28 are allowed because a comprehensive search of prior art failed to teach, either alone or in combination, a base station receiver network configured to provide dynamic user sectorization by decorrelating delays between received signals from adjacent coverage areas, comprising a plurality of antennas; a first plurality of receive amplifiers comprising a plurality of delay elements operably connected to said plurality of antennas, wherein said decorrelating delays are introduced between said received signals from said adjacent coverage areas; at least one switch matrix operably connected to said first plurality of receive amplifiers, whereby information from user sectors are routed to users

within said adjacent coverage areas; a plurality of summation networks operably connected to said at least one switch matrix; a plurality of receivers operably connected to said plurality of summation networks, whereby said received signals are downconverted and digitized into composite I and Q components; a PN long code generator for providing PN long code to said plurality of receivers; and a plurality of phase delay elements operably connected to said plurality of receivers for offsetting said PN long code by a predetermined margin, as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Swales, ("A spectrum efficient cellular base-station antenna architecture" This paper appears in: Antennas and Propagation Society International Symposium, 1992. AP-S. 1992 Digest. Held in conjunction with: URSI Radio Science Meeting and Nuclear EMP Meeting., IEEE Publication Date: 18-25 Jul 1992 On page(s): 1069-1072 vol.2 Meeting Date: 07/18/1992 - 07/25/1992 Location: Chicago, IL, USA ISBN: 0-7803-0730-5).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUAN A. TORRES whose telephone number is (571)272-3119. The examiner can normally be reached on 8-6 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Juan Alberto Torres
10/13/2008

/Juan A Torres/
Examiner, Art Unit 2611